

Amendment A and Response  
Inventors: William R. Stuchlik  
S.N.: 09/934,141

**Amendments to the Specification:**

All amendments are related to the paragraph listings found on the Applicant's Published Patent Application 20020073494 that was published on June 20, 2002.

Please replace paragraph [0001] with the following:

**AN APPARTAUS FOR TREATING A FLOOR SURFACE  
UTILIZING A HANDLE MOUNTED TRAVERSE SWITCH**

**CROSS-REFERENCE TO RELATED APPLICATIONS**

This application claims the benefit of U.S. Provisional Patent Application 60/227,092, filed Aug. 22, 2000, which is herein incorporated by reference in its entirety for all purposes.

Please replace paragraph [0030] with the following:

A skirt 63 constructed of bristles depends from the brush housing 61 about the peripheral edge of the housing. The brush housing 61 is sized larger than the annular brushes 57 such that the skirt 63 substantially surrounds the brushes above the floor surface to inhibit liquid cleaning solution from spraying outside the brush housing as the brushes agitate the solution during operation of the floor scrubber scrubber 21. The brush housing 61 of the illustrated embodiment is a removable housing of two-piece construction, with each section 65 of the brush housing

having a jacket 67 sized for receiving a respective end of the brush head plate 55 such that the brush head plate supports each section of the brush housing. As shown in FIG. 6, a portion 69 of each jacket 67 is cut-out to accommodate the brush motors 59 and ~~mounting assembly 53~~. lift unit 53. The brush housing sections 65 are sized such that when they are seated on the brush head plate 55, the sections are in close contact relationship with each other along a central seam line 70 (FIG. 6).

Please replace paragraph [0033] with the following:

Securing the linkage arms 87 to the mounting bracket 85 and side brackets 81 using the sleeve bearings 89 permits pivoting movement ~~of the~~ of the brush head 51 and lift bracket 79 relative to the mounting bracket about the horizontal axes of the ~~sleeve bearings~~ sleeve bearings 89 to maintain the ~~brush head~~ brush head 51 in a generally horizontal orientation as the lift unit raises and lowers the ~~brush head~~ brush head 51 relative the floor surface. An actuator 91 (FIG. 7A) for actuating the ~~lift unit~~ lift unit 53 to move the brush head 51 between its raised and lowered positions extends between the mounting bracket 85 and the side brackets 81, and is pivotally connected at one end to the pin 83 extending between the side brackets and at its other end to a similar pin 93 (FIG. 5) extending laterally within the mounting bracket generally adjacent the front attachment plate 41. It is understood that the lift unit 53 may be moved up and down other than by an actuator 91 for raising and lowering the brush head 59 without departing from the scope of this invention.

Please replace paragraph [0037] with the following:

The brush head 51 is further pivotally connected to the lift bracket 79 of the ~~lift assembly~~  
~~53 lift unit 53~~ by a slide assembly 97 (FIGS. 5, 7A, 7B and 9) comprising four slide bushings  
119 (three of which are shown in FIG. 5 and one of which is shown in FIG. 9) disposed in  
radially spaced relationship with the pivot bushing 105 (see FIGS. 7A, 7B). Each slide bushing  
119 is tubular, having a central passage 121 extending therethrough, and is disposed in a  
respective guide slot 123 formed in the lift bracket 79. Corresponding openings 125 (FIG. 6) are  
formed in the brush head plate 55 in radially spaced relationship with the pivot axis of the ~~pivot~~  
~~assembly 53 lift unit 53~~ and are located for registry with a respective one of the guide slots 123  
throughout pivoting movement of the brush head 51 between the first and second angular  
positions of the brush head. A screw 127 (FIG. 9) broadly defines a pin extending up through the  
brush head plate opening 125 and the bushing passage 121 and has a head 129 at one end sized  
larger than the brush head plate opening. The other end 131 of the screw 127 extends up out of  
the bushing passage 121 and threadably receives a nut 133 (broadly, a retaining member) thereon  
to secure the slide bushing 119 in the corresponding slot 123 of the lift bracket 79 down against  
the brush head plate 55, and to further removably connect the brush head 51 to the lift bracket 79  
of the lift unit 53. As with the pivot bushing 105, the slide bushings 119 are sufficiently long so  
that when the nuts 133 are tightened down against the ~~slide bushings~~ ~~slide bushings 119~~, the  
~~bushings~~ ~~slide bushings 119~~ prevent the lift bracket from being tightened down against the brush  
head plate 55. The arcuate guide slots 123 formed in the lift bracket 79 permit arcuate movement  
of each slide bushing 119 therein upon pivoting movement of the brush head plate 55 relative to

the lift bracket 79 about the pivot axis of the pivot assembly 95. The upper end of each slide bushing has an annular flange 130 (broadly, a support member of the slide assembly 97) extending radially outward therefrom. The lifting force applied to the lift bracket 79 by the actuator 91 to raise the brush head 51 to its raised position is thereby distributed to the pivot bushing 105 and the slide bushings 119 by the flanges 109,130 of the pivot bushing and slide bushings.

Please replace paragraph [0042] with the following:

Still referring to FIG. 11, the directional switch unit 203 is mounted on the rear face of the handle 37 generally adjacent one of the traverse switch units 201 for ease of reaching and operating the directional switch unit simultaneously with the traverse switch unit using only one hand. The directional switch unit 203 comprises a housing 225 recessed into the rear face of the handle 37 and a push button-type switch 227 disposed in the housing and extending outward therefrom. The directional switch unit 203 directional switch 227 is also in electrical communication with the drive motor 30 and is movable between an extended position in which the push button-type switch 227 switch 227 is positioned relatively outward of the housing 225 and a depressed position in which the push button-type switch 227 switch is moved inward from its extended position relative to the housing 225 housing. In the extended position, no signal is sent by the directional switch unit 203 switch 227 to the drive motor 30 such that the floor scrubber 21 scrubber 21 is controlled to move forward in response to operation of the floor

scrubber 21 ~~scrubber~~ in its traverse mode. In the depressed position, a signal is sent by the directional switch unit 203 ~~directional switch 227~~ to the drive motor 30 to control movement of the floor scrubber 21 ~~scrubber 21~~ in a reverse direction in the traverse mode of the floor scrubber. A spring (not shown) in the housing 225 biases the push button-type switch 227 ~~directional switch 117~~ to its extended position.

Please replace paragraph [0053] with the following:

To operate the floor scrubber 21, the operator grasps the handle 37, with at least one palm resting on the handle on or adjacent to a corresponding one of the switch bars 205 of the control system traverse switch units 201. If movement in the forward direction of travel is desired, the operator does not depress the directional switch unit 203 ~~directional switch 227~~ on the rear of the handle 37, thereby allowing the directional switch to remain in its extended position corresponding to forward operation of the floor scrubber 21 ~~scrubber 21~~. The operator then squeezes the handle 37 with at least one hand and, with the operator's palm or thumb, exerts inward pressure against at least one of the switch bars 205. Each switch bar 205 against which inward pressure is exerted moves inward in the channel 213 of the switch bar housing 207 against the bias of the springs 221 in the housing. The switch bar 205 pushes inward against the switch 215 to move the switch to its depressed position corresponding to the traverse mode of the floor scrubber 21. In response thereto, the control system 35 sends a signal to the drive motor 30

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to drive the floor scrubber 21 in the forward direction of travel.

Please replace paragraph [0056] with the following:

To operate the floor scrubber 21 ~~scrubber 21~~ in the reverse direction, the operator uses a finger, such as an index finger, on the hand grasping the handle 37 adjacent the directional switch unit 203 to move the push button-type switch 227 ~~directional switch 227~~ to its depressed position. In response thereto, the control system 35 sends a signal to the drive motor 30 indicating that reverse movement is desired. While maintaining the push button-type switch 227 ~~directional switch 227~~ in its depressed position, the operator squeezes the handle 37 in the manner described above to operate the floor scrubber 21 ~~scrubber 21~~ in its traverse mode whereby the floor scrubber 21 ~~scrubber~~ is now powered to move in the reverse direction.

Please replace the Abstract with the following:

**AN APPARTAUS FOR TREATING A FLOOR SURFACE**  
**UTILIZING A HANDLE MOUNTED TRAVERSE SWITCH**

**ABSTRACT OF THE INVENTION**

Apparatus for treating a floor surface includes a wheeled vehicle having a floor surface treating unit, a drive motor operable to propel the wheeled vehicle and a control system for controlling operation of the apparatus. A handle is mounted on the wheeled vehicle and has a

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traverse switch unit for selectively operating the apparatus between a traverse mode in which the vehicle is propelled by the drive motor to move relative to the floor surface and an idle mode in which the drive motor is ineffective to propel the vehicle. The traverse switch unit is mounted on the handle such that the traverse switch unit is accessible for movement by the operator toward the first position of the traverse switch unit corresponding to the traverse mode of the apparatus without the operator having to generally release the handle.